

GF-PA Technical Data Sheet (TDS)

GF-PA is a glass fiber reinforced Nylon 6 filament. The material exhibits excellent thermal and mechanical properties without sacrificing the layer adhesion.

Property	Testing Method	Typical Value
Density	ISO1183, GB/T1033	1.2 g/cm ³ at 21°C
Melt Index	300°C, 2.16Kg	15.9 g/10 min
Light Transmission	N/A	N/A
Flame Retardancy	UL 94	V2

Property	Testing Method
Effect of Weak acids	Not Resistant
Effect of Strong acids	Not Resistant
Effect of Weak alkalis	Slight Resistant
Effect of Strong alkalis	Not Resistant
Effect of Organic Solvent	Not Resistant
Effect of oils and grease	Resistant
Effect of Sunlight	No data available

Property	Testing Method	Typical Value
Glass Transition	DSC, 10°C/min	70.4°C
Melting Temperature	DSC, 10°C/min	214.5°C
Crystallization Temperature	DSC, 10°C/min	174.5°C
Decomposition Temperature	TGA, 20°C/min	>370°C
Vicat Softening Temperature	ISO 306 GB/T 1633	N/A
Heat Deflection Temperature	ISO 75 1.8 MPA	157°C
Heat Deflection Temperature	ISO 75 0.45MPA	191°C
Thermal Conductivity	N/A	N/A
Heat Shrinkage Rate	N/A	N/A

Dry State

Property	Testing Method	Typical Value
Young's modulus (X-Y)	ISO 527, GB/T 1040	4431 ± 184 MPa
Young's modulus (Z)		3330 ± 145 MPa
Tensile Strength (X-Y)	ISO 527, GB/T 1040	84.5 ± 2.1 MPa
Tensile Strength (Z)		61.4 ± 3.9 MPa
Elongation at break (X-Y)	ISO 527, GB/T 1040	3.4 ± 0.3 %

Elongation at break (Z)		2.9 ± 0.7%
Bending modulus (X-Y)	ISO 178, GB/T 9341	4637 ± 293 MPa
Bending modulus (Z)		N/A
Bending Strength (X-Y)	ISO 178, GB/T 9341	136.4 ± 1.6 MPa
Bending Strength (Z)		N/A
Charpy impact strength (X-Y)	ISO 178, GB/T 9341	136.4 ± 1.5 kJ/m ²
Charpy impact strength (Z)		N/A

Moisture Condition

Property	Testing Method	Typical Value
Young's modulus (X-Y)	ISO 527, GB/T 1040	2053 ± 243 MPa
Young's modulus (Z)		2593 ± 192 MPa
Tensile Strength (X-Y)	ISO 527, GB/T 1040	50.8 ± 4.9MPa
Tensile Strength (Z)		44.4 ± 4.7MPa
Elongation at break (X-Y)	ISO 527, GB/T 1040	19.4 ± 2.2%
Elongation at break (Z)		2.9 ± 0.8%
Bending modulus (X-Y)	ISO 178, GB/T 9341	2232 ± 97 MPa
Bending modulus (Z)		N/A
Bending Strength (X-Y)	ISO 178, GB/T 9341	65.1 ± 2.2 MPa
Bending Strength (Z)		N/A
Charpy impact strength (X-Y)	ISO 178, GB/T 9341	21.2 ± 1.1 kJ/m ²
Charpy impact strength (Z)		N/A

Print Recommendation	
Nozzle Temperature	280 -300 °C
Bed Temperature	90 -110 °C
Print Speed	30-60 mm/s
Chamber Temperature	60-80 °C
Cooling Fan	0-50%